

**IN THE CLAIMS:**

1.     **(Currently Amended)** A medical monitoring system for the detection of at least one disorder in a human patient, comprising:

    a plurality of independently operable modular testing subsystems, said modular testing subsystems including at least

        an auditory response testing subsystem, said auditory response testing subsystem configured to measure at least one response of the human patient to an auditory stimulus, said response representative of a first indicator of [[the]] at least one disorder; and

        at least one non-auditory response testing subsystem, said at least one non-auditory response testing subsystem configured to measure at least one characteristic of the human patient, said at least one characteristic representative of at least one additional indicator of [[the]] at least one disorder; and

    a processor system operatively coupled to each of said module testing subsystems, said processor system configured with a computer program to selectively operate each of said plurality of module testing subsystems and to generate an index value representative of the at least one disorder responsive to a plurality of indicators of the ~~at least one disorder~~ generated by at least two of said modular testing subsystems.

2.     **(Original)** The medical monitoring system of Claim 1 wherein said at least one non-auditory response testing subsystem includes a breath gas monitoring subsystem.

3.     **(Original)** The medical monitoring system of Claim 2 wherein said breath gas monitoring subsystem is configured to measure at least a concentration of carbon

monoxide exhalations from the human patient, said carbon monoxide concentration an indicator of a hemolysis condition.

4. (Original) The medical monitoring system of Claim 2 wherein said breath gas monitoring subsystem is configured to measure a concentration of a breath gas exhalations from the human patient selected from a set of breath gases including oxygen, carbon dioxide, nitrous oxide, and NO<sub>2</sub>.

5. (Original) The medical monitoring system of Claim 1 wherein said at least one non-auditory response testing subsystem includes a blood analysis subsystem.

6. (Currently Amended) The medical monitoring system of Claim 5 wherein said blood analysis subsystem is configured to measure at least a presence or absence of at least one chemical compound indicative of a hemolysis condition in [[a]] the human patient.

7. (Original) The medical monitoring system of Claim 6 wherein said blood analysis subsystem is further configured for non-invasive optical blood analysis.

8. (Currently Amended) The medical monitoring system of Claim 5 wherein said blood analysis subsystem is configured to measure at least a presence or absence of at least one chemical compound indicative of a lactose malabsorption condition in [[a]] the human patient.

9. (Original) The medical monitoring system of Claim 1 further including a portable hand-held enclosure, said processor system, said auditory response testing subsystem, and said at least one non-auditory response testing subsystem disposed within said enclosure;

at least a first connection point on said enclosure for operatively coupling at least a first instrument to said auditory response testing subsystem;

at least a second connection point on said enclosure for operatively coupling at least a second instrument to said at least one non-auditory response testing subsystem; and

a power supply for operating each of said testing subsystems.

**10. (Original)** The medical monitoring system of Claim 9 wherein said first and second instruments are selected from a set of instruments including microphones, acoustic emitters, electrodes, gas analyzers, and optical sensors.

**11. (Currently Amended)** The medical monitoring system of Claim 1 wherein said at least one non-auditory response testing subsystem includes a bioelectric signal measurement subsystem, said bioelectric signal measurement subsystem configured to measure at least one bioelectric signal from [[a]] the human patient.

**12. (Currently Amended)** The medical monitoring system of Claim 11 wherein said processor system is further configured to evaluate said bioelectric signal to detect at least one predetermined anomaly representative of a medical disorder in [[a]] the human patient.

**13. (Original)** The medical monitoring system of Claim 11 wherein said measured bioelectric signal is selected from a set of bioelectric signals including electro-encephalogram signals and electro-cardiogram signals.

**14. (Original)** The medical monitoring system of Claim 1 wherein said processor system is further configured to selectively display test results from a single testing subsystem.

**15. (Original)** The medical monitoring system of Claim 1 wherein said processor system is further configured to selectively display a cumulative index generated from measurements acquired by a plurality of testing subsystems, said cumulative index representative of a medical condition of said human patient.

**16. (Currently Amended)** An medical monitoring system for the detection of at least one medical disorder in a human patient, comprising:

a portable hand-held enclosure;

a plurality of testing subsystems disposed within said enclosure, each of said plurality of testing subsystems configured to measure at least one discrete characteristic of the human patient, each of said discrete characteristics representative of the at least one medical disorder;

at least one connection points point on said enclosure for operatively coupling at least one instrument to said plurality of testing subsystems;

a power supply for operating said plurality of testing systems;

a processor system operatively coupled to each of said testing subsystems, said processor system configured with a computer program to selectively operate each of said plurality of testing subsystems and to generate an index value representative of the at least one medical disorder responsive to a plurality of indicators generated by at least two of said testing subsystems; and

wherein said at least one medical disorder is selected from a set of medical disorders including hemolysis, lactose malabsorption, and hyperbilirubinemia.

**17. (Original)** The medical monitoring system of Claim 16 wherein said plurality of testing subsystems are selected from a set of testing subsystems including

an auditory screening subsystem; a breath gas analyzer subsystem; a blood analysis subsystem; and a bioelectric signal measurement subsystem.

18. **(Original)** The medical monitoring system of Claim 17 wherein said blood analysis subsystem is a non-invasive optical blood analysis subsystem.

19. **(Original)** The medical monitoring system of Claim 16 wherein said at least one instrument is selected from a set of instruments including microphones, acoustic emitters, electrodes, gas collectors, and optical sensors.

20. **(Cancelled)**

21. **(Currently Amended)** The medical monitoring system of Claim [[20]] 16 further including a display device mounted to said enclosure, said display device operatively connected to said processor system to display said results.

22. **(Cancelled)**

23. **(Cancelled)**

24. **(Previously Presented)** A self-contained, portable medical monitoring system for the detection of at least one medical disorder in a human patient, comprising:

a plurality of detection means for acquiring a plurality of different measurements of patient characteristics representative of the at least one medical disorder; and

a processor means coupled to said plurality of detection means, said processor means configured with a plurality of independent program modules for evaluating said plurality of different measurements, each of said plurality of independent program modules associated with one of said plurality of detection means for evaluating measurements acquired by said associated detection means; and

wherein said processor means is further configured to communicate data between at least two of said independent program modules for generating [[a]] an index value based on at least a portion of said plurality of different measurements, said index value representative of severity of the at least one medical disorder.

**25. (Previously Presented)** The self-contained, portable medical monitoring system of Claim 24 wherein said processor means is further configured to generate a display of at least one of said plurality of different measurements to a user.